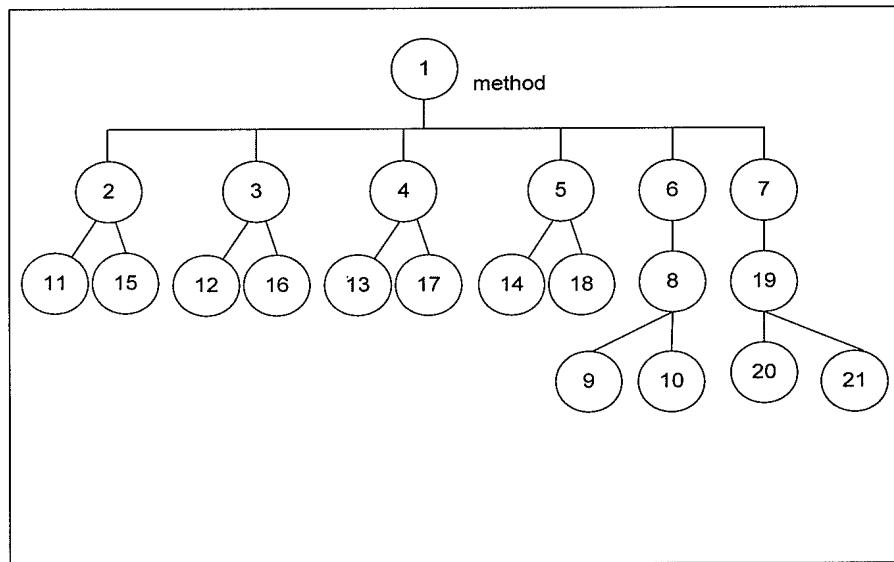


REMARKS/ARGUMENTS

The diagram below illustrates the relationship among pending claims 1-21, of which claim 1 is in independent form and the remainders of the claims are in dependent form.



In the Office Action of Jan 14, 2009, claims 1, 4-7, 13-14 and 17-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Guess et al. (U.S. Pub. No. 2003/0048746) in view of Fukushima et al. (U.S. Pat. No. 6,038,678). Dependent claims 2, 11 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Guess in view of Fukushima and further in view of Trudel et al. (U.S. Pat. No. 7,450,497) and Shimano et al. (U.S. Pat. No. 6,947,377). Dependent claims 3, 12 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Guess in view of Fukushima and further in view of Swinkels et al. (U.S. Pat. No. 6,795394).

Applicants respectfully traverse the rejections and requests their withdrawal in view of the remarks set forth herein.

RESPONSE TO THE REJECTION OF INDEPENDENT CLAIM 1

Claim 1 provides a method for protecting a data service in a Metropolitan Area Transport Network including the following elements:

(A) establishing a work path for transporting a service between a source node and a work destination node of the service in the Metropolitan Area Transport Network; setting a node other than the work destination node as a protection destination node; establishing a protection path between the source node and the protection destination node for protecting the service in the work path;

(B) the source node detecting a failure state of links of the work path and the protection path and a failure state of a node in the links of the work path and the protection path;

(C) the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device;

(D) if there is the failure, notifying the source node; and

(E) switching the data service in the work path to the protection path by the source node when the failure state of the link of the work path or the failure state of a node in the link is detected or a failure state notice of the work destination node is received.

It can be seen that, two types of failures are taken into consideration by claim 1, i.e. a failure state of links of the work path and the protection path and a failure state of a node in the links of the work path and the protection path; and the failure of the links connecting the work destination node and the protection destination node to a data device. Applicant has carefully reviewed the Guess and Fukushima references and particularly the portions cited in the Office Action and respectfully submits that Guess and Fukushima in combination cannot support the rejection set forth in the Office action. Firstly, Guess fails to disclose or suggest features (B), (C), (D) and (E) of claim 1.

Guess recites that “[t]his physical topology allows the creation of a working path 50 and a protection path 52 across the network connecting each subscriber (L3 Switch 54) to their carrier/ISP (L3 Switches 56, 58).” See Guess, Figure 5 and paragraph [0078]. Guess at best describes that the working path 50 and the protection path 52 connect each subscriber

(L3 Switch 54) to their carrier/ISP (L3 Switches 56, 58), but does not mention which node detects the failure of the link connecting the work destination node to a data device, and which node detects the failure of the link connecting the protection destination node to a data device.

In addition, according to Guess, ESRP is “used to detect and recover from failures” (See Guess, paragraph 0080, line 2), and “[i]f a failure is detected anywhere along the active path 64, ESRP will failover to allow traffic to flow on the standby path 65” (See Guess, paragraph 0093, lines 7-9, and Figure 6). It can be seen that Guess focuses on detecting failures occurring on the working path (64) and the protection path (65), but fails to disclose anything about detecting failures on the links connecting the work destination node and the protection destination node to a data device.

Thus Guess fails to teach “the work destination and the protection destination node detecting respectively the failure of the links connecting themselves to a data device,” as set of in claim 1, i.e. the claimed feature of (C).

The Office Action concedes that Guess is silent with respect to features (B), (D) and (E) of claim 1 (See Office action, page 3, lines 15-22) and relies on Fukushima for these features. Contrary to the Office Action, Fukushima does not teach feature (B).

Fukushima mainly aims at “preventing an erroneous switching operation from being carried out in the event of simultaneous **failures occurring on the working and protection paths at the same time**” (See Fukushima, column 3, lines 20-25), and provides a path switching apparatus “for detecting a failure occurring on the working path and a failure occurring on the protection path,” and “determining whether a working path with a failure occurring thereon is an active or standby path” or “determining whether a protection path with a failure occurring thereon is an active or standby path,” and “selecting either the working or protection path as the active path” (See Fukushima, column 4, lines 34-60).

Applicant respectfully submits that Fukushima also fails to disclose the claimed features (B) to (E).

Specifically, Figure 9 of Fukushima only shows failures occur on both the working path 218 and the protection path 219, and column 4, lines 17-19 of Fukushima merely states that “detecting a failure occurring on the working path and a failure occurring on the protection path,” But it is unclear which node performs the detection of failures occurring on the working path and the protection path.

About the apparatus that detects failures, Fukushima states that “[a] failure propagated through the input path 101 is detected as an alarm by the alarm detect circuit 104 and output as alarm information to the alarm management circuit 108” (See Fukushima, column 8, lines 25-27), that **the “alarm detect circuit” and the “alarm management circuit” reside in “NODE-c 208” for detecting the failure occurring on the working and protection path** (See Fukushima, Figures 4 and 7), and that “the continuing path starts from Node-a 206 and ends at Node-c 208 by way of Node-b 207, (serving as a working path).....a protection path which also ends at Node-c 208” (See Fukushima, column 6, lines 54-57). Fukushima clearly suggests that the Node-c 208 is the end node of the working path and the protection path, thus the failure is detected by the end node of the working path and the protection path according, but not the source node as set forth in claim 1.

Therefore, Fukushima fails to disclose the claimed feature of (B), **“the source node detecting a failure state of links of the work path and the protection path and a failure state of a node in the links of the work path and the protection path,”** as set forth in claim 1.

Fukusihma also fails to teach or suggest feature (C) of claim 1. Specifically, Fukushima fails to show the end node of the working path and the protection path (i.e., Node-c) is connected to any data device. See Fukushima, Figures 4-6. Fukushima merely describes detecting failures occurring on the working and protection paths. Thus, Fukushima fails to disclose the claimed feature of (C) of claim 1, which requires **“the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device.”**

Fukushima also fails to teach or suggest the features (D) and (E) of claim 1, Specifically, Fukushima teaches that, after the alarm information is output to the alarm management circuit 108, the alarm management circuit 108 outputs a result of the processing “to the switch control circuit 110” (See Fukushima, column 8, lines 40-41) and “the switch control circuit 110 outputs a switch control signal to the path selector 103” (See Fukushima, column 9, lines 15-16). Fukushima further describes that the path selector 103 is “for selecting either the input 101 or the input path 102 (as an active path)” (See Fukushima, column 7 lines 20-21). Since units 108, 110 and 103 reside in the end node of the working path and the protection path (as discussed earlier in this response), it is the end node of the working path and the protection path that performs selection of an active path and switching, and the source node of Fukushima does not perform any switching. In contrary, the method

set forth in claim 1 utilizes the source node to select and switch the active path. Thus, Fukushima fails to disclose features (D) and (E) of claim 1, which require “if there is the failure, notifying the source node; and switching the data service in the work path to the protection path by the source node when the failure state of the link of the work path or the failure state of a node in the link is detected or a failure state notice of the work destination node is received.”

In view of the foregoing, Applicant respectfully submits that Guess and Fukushima, alone or combined, fail to disclose or suggest all of the features of claim 1 and specifically fail to disclose features (B), (C), (D) and (E). Thus, claim 1 describes an invention that is patentably distinct from the references applied by the Office Action. Applicants therefore respectfully request withdrawal of the rejections.

RESPONSE TO THE REJECTIONS OF DEPENDENT CLAIMS 2-21

As for the dependent claims, they depend from independent claim 1 and, therefore, include all of the limitations of base claim 1. Without addressing the assertions set forth in the Office Action, which are not conceded, Applicant respectfully requests withdrawal of the rejections of these dependent claims for the same reasons expressed above in connection with independent claim 1. However, applicants direct the following remarks to particular ones of the dependent claims.

As for dependent claims 2, 11, and 15, Trudel provides “a network element for providing protection switching in a 1:N shared mesh protection scheme having a first protection path associated with a pair of working paths selected from the N working paths” (See the abstract of Trudel). Trudel, however, makes no mention of a work destination node and a protection destination node connecting to a data device. Therefore, Trudel fails to teach the claimed feature of “the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device, if there is the failure, notifying the source node” as set forth in claim 1. Thus Trudel fails to cure the deficiencies of Guess and Fukushima.

Shimano provides a path network “operated by transmitting path signals from a transmitting node to a receiving node through the working paths and the protection paths, and converting a protection path into a working path temporarily in order to increase a bandwidth of the working paths when a bandwidth increase request occurs in the path network” (See the

abstract of Shimano). Shimano merely describes processing “a bandwidth increase request,” but fails to suggest or teach detecting link and node failures as set forth in claim 1. Thus Shimano also fails to cure the deficiencies of Guess and Fukushima.

In view of the foregoing, claims 2, 11 and 15 are patentable over any combination of Guess, Fukushima, Trudel and Shimano for at least the same reasons set forth above.

As for dependent claims 3, 12, and 16, Swinkels provides “a communication network comprising a plurality of nodes linked by spans”, and “in the event of a fault in a working path, the working traffic is switched to a respective protection path using a span switch operation.” Swinkels mentions nothing about a work destination node and a protection destination node connecting to a data device, and remains silent about “the work destination node and the protection destination node detecting respectively the failure of the links connecting themselves to a data device, if there is the failure, notifying the source node.” Swinkels fails to cure the deficiencies of Guess and Fukushima.

In view of the foregoing, claims 3, 12 and 16 are patentable over the combination of Guess, Fukushima, and Swinkels for at least the same reasons set forth above.

CONCLUSION

Applicant respectfully submits that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



John B. Conklin, Reg. No. 30,369
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6731
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

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